ICMA

Leaders at the Core of Better Communities

Sustainable Urban Management IQC

USAID Quarterly Report XXVI

July-September 2006

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Sustainable Urban Management IQC
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Task Order No.:03
Task Order Title: Urban Planning GIS Workshop and Capacity Building Activities

Period of Performance: April 1, 2005- October 31, 2007
USAID Office/Mission: Washington, D.C.
CTO: Edgar Thornton

I. Introduction

International City County Management Association (ICMA), through funding provide by the U.S. Department of State, the United States Agency for International Development (USAID) and the U.S. Department of Housing and Urban Development (HUD), will collaborate to develop and implement a workshop aimed at increasing the capacity of cities in the Middle East and North Africa to address urban poverty and development with the aid of geospatial information technology.

The proposed workshop, *Geoinformation for Sustainable Cities*, addresses the overarching OES Bureau Program Plan (BPP) goal of promoting Sustainable Development and Good Governance in urban areas of the Muslim World through five mechanisms: (1) enhancing local government capacity to make informed policy decisions (2) promoting transparency through access to accurate information and science-based decision-making tools; (3) implementing public-private partnerships that leverage resources and strengthen international cooperation; (4) contributing to Muslim World Outreach by facilitating access to U.S. information technologies (IT) and scientific know-how; (5) enhancing the role of women through capacity building and active participation in this dialogue between experts and policy-makers addressing societal problems in a complex urban context.

The workshop objectives that contribute to accomplishing the overarching goal are: (1) introducing urban planners and policy makers (both men and women) in the rapidly growing cities of the Middle East and North Africa region (MENA) to innovative ways to improve decision making capacity through the use of geospatial information technology; (2) the application of geospatial tools, and providing them with GIS software to keep and PDS hardware to use in the workshop; (3) training these urban planners and policy makers in the use of the resulting geospatial data to develop strategies/policies for addressing pervasive urban problems such as poverty; and (4) providing these professionals with examples of the application of geospatial tools in cities of both developed and developing countries that can be applied in their specific urban contexts.

In order to accomplish the above objectives, ICMA proposes to design, conduct, and facilitate a 5-day workshop in Amman, Jordan May 7-11, 2006 for 40 participants, half of whom are decision makers in their cities, and half of whom are technical engineers, in these same cities, who will benefit from hands-on training in the use of Geographic Information Systems (GIS) and the Global Positioning System (GPS). The workshop participants will attend sessions designed to either hone their skills in GIS and GPS technology, in the case of the engineers, or to gain a better understanding of how geospatial information technology might be applied in city planning decision-making. Presenters will include regional experts highlighting case studies from cities where GIS mapping has been used successfully in urban planning, as well as experts from other regions who will provide lessons learned from their perspective that can be adapted for use in

this region. Speakers from the MENA region will be invited to share their insights in order to motivate others to take advantage of the opportunities for better planning through the use of geospatial information tools.

II. Major Accomplishments

The *GIS for Sustainable Cities workshop* took place in Amman, Jordan July 16-20, 2006.

The workshop got underway on July 16, 2006 at the Infograph training facility in Amman. Participants to the three-day technical training came from Jordan, West Bank/Gaza, Yemen, Iraq, Egypt, Tunisia, Morocco, and Libya. Delegates from Lebanon had to cancel because of the political situation in Isreal/Lebanon affecting travel.

ESRI and Trimble Navigation, two international companies renowned for their geospatial information technology, trained participants in GPS and GIS and provided software to participants. The first day was dedicated to the fundamentals of GPS with hands-on training led by Trimble. Participants took part in a site visit to King Hussein Park collect data and applied the data in the classroom, and learned about importing and exporting data, data validation and rebuild, and differential correction.

The second and third days were focused on GPS technology, taught by experienced trainers from ESRI and Infograph, and including an introduction to ArcGIS. Specific topics included GeoInformation integration and management, including metadata creation (capabilities and applications of ArcGIS, Spatial data concepts, ArcGIS data model, GIS software) and Spatial analysis for urban management and Development of GeoInformation "products" for improved decision-making (spatial coordinate systems and map projections, querying data, and map displays). Participants learned how to use the geospatial technologies to facilitate the development of map-layers of urban poverty characteristics, including access to clean water, location of educational and medical facilities in relation to neighborhoods, in order to provide a basis for leaders in their communities to undertake informed decision making and develop effective models to better address these problems.

On July 19, 2006, the plenary session opened with 48 participants from local governments, ministries, and private organizations from eight countries in the MENA region. The first day of the plenary session focused on the role of geospatial information in developing policy for the alleviation of urban poverty. The sessions included case study presentations and round table discussions involving all participants in an effort to answer the question "Where does technology fit into the urban planning process?" In this manner, the policy makers and leaders of the participating communities increased their understanding that it is important for them to utilize the technology available to them in order to improve the lives of their citizens and will ensure their commitment and buy-in to the idea of working together with their trained technology experts to solve some urban planning problems.

After representatives from the Department of State and Infograph welcomed participants, the key-note presentation was delivered by Eduardo Moreno, Chief, Global Urban Observatory, UN HABITAT. He spoke about the challenges of world urbanization, noting that in the next 15

years 93% of the urban growth will be in developing countries and discussed the urban growth factors and correlation to poverty and slum growth. One conclusion to the data presented was that there is not enough information to make correct decisions to combat poverty partly because geospatial technology is not properly integrated to urban management and planning. Moreno then discussed the role UN HABITAT is playing to measure, visualize, and understand global trends and then disseminate information to local governments and other stakeholders to make better informed decisions.

To illustrate the challenges and solutions of GeoSpatial Technology Applications Shoreh Elhami, GIS Director of the Delaware Appraisal Land Information System (DALIS), discussed Delaware County's GIS as well as case studies of GeoSpatial Technology Applications Solutions and Challenges. She answered the question, "What can GIS do?" with examples.

Participants then split into two groups based on interest to discuss promoting efficiency and equity and promoting community viability and environmental quality by using geospatial technology. The first session featured case studies by Dania N. Koleilat, Director of Marketing and Public Relations, Space Imaging Middle East (SIME) and Nidal Saliba, GIS Manager, Ministry of Water and Irrigation (Water Authority of Jordan), Program Management Unit. Each discussed with participants the increased ease, cost/labor savings, and the fact-based decisions that could be gained when using geospatial technology to make decisions regarding urban planning.

Ms. Koleilat spoke about the Supreme Town Planning Committee (SCTP) in Oman and focused on the importance of having a centralized database for geospatial information and the importance of sharing it across the different government departments and ministries. The STPC has a database system to host and manage geospatial information and they have linked it to the different ministries, resulting in significant cost-savings on the national level. Ms. Koleilat described the scope of the project, system design, SCTP database benefits, and SCTP application benefits, including data being stored in one place and kept up to date by authorized personnel, the ease of maintaining the database with custom tools, easy storage and retrieval of data, and current data is shared by all. Data is centralized and shared with different government agencies for cost efficiency.

Mr. Saliba spoke about GIS and the Water Exploitation Cycle and how integrating all aspects of the utility with geospatial tools to increase the efficiency of the service delivery. He explained how different areas of the water service were incorporated into GIS, including the primary and local water distribution system from the pump to households, the GIS-based customer complaint system, using GIS analysis for the prioritization of rehabilitation and maintenance activities, managing collectors' routes in GIS, field mapping of facilities using GPS, and coding water customers using GIS. By linking this information together, it is easier and more cost-effective to solve water distribution, revenue collection, and facility maintenance in the service delivery sector.

The second parallel session, entitled 'Promoting Community Viability and Environmental Quality by Using Geospatial Technology' laid out the opportunities geospatial technology represents in environmental and long-term community planning, including increasing quality of

life and viability of community and how it helps the municipal leaders to develop their policies and make decisions. Shoreh Elhami, GIS Director, DALIS; Dr. Ayman El Hefnawi, Urban Environment and Capacity Building Specialist, Secretary General, UTI, Egypt; and Majid Al Mansori, Secretary General, Environment Agency, Abu Dhabi, UAE presented case studies in support of the topic.

Ms. Elhami discussed geospatial technology's uses in land use planning, citing the various activities and types of planning that geospatial technology is most suitable for, including: asking "What if" questions & building alternative scenarios, monitoring impacts & trends, examining patterns, conducting suitability models, enhancing & encouraging community participation and creating consensus, visualizing results in 2-D & 3-D environments, and planning for utilities, transportation, downtown development, neighborhood revitalizations, and much more.

Mr. Al Monsouri then presented his case study speaking about the importance of information in the work of The Environment Agency – Abu Dhabi (EAD) in its mission to assist the Abu Dhabi Government in the conservation and management of the Emirate's environment. Mr. Al Monsouri stipulates that "the right decisions depend mainly on quality information derived from available data stored in a schematic structure suitable for supporting the decision makers" and explains the way EAD uses and shares information derived from geospatial technology in various environmental sectors such as soil, avian influenza, water, air quality, and costal zoning. He also described how the Abu Dhabi Global Environmental Data Initiatives (AGEDI) works across various levels of government and other stakeholders with its geospatial portal, designed to share environmental metadata with other organizations on different levels.

Jon Bormet, former City Manager, prefaced the 'Guidelines to Developing a GPS System" explaining to participants that GIS can save a municipality money but the practitioners need to be able to explain why this investment can save money because decision makers respond to this and so do constituents. Using a GIS can increase revenues and enhances the ability of city to provide services. Whether a city has GIS and needs to make it better, or they need GIS, money must be spent upfront. Bormet argued that there are many places that decision makers can spend money, but this one can make money later. Once the decision-makers say go, it is up to the practitioners to implement the system.

Pat McLarin, Product Solutions Specialist, Mapping & GIS, Trimble and Letaief Ezzedine from SLE-GPS Solutions in Tunisia outlined the guidelines to developing a GPS program. Mr. McLarin set out to answer several important questions using case-examples from around the world:

- Is GPS the right technology for my project?
- What requirements must be considered?
- What benefits does GPS deliver?

He concluded that when planning GPS data collection, one must consider the following:

- What accuracy is needed and when it is needed
- The day to day conditions the equipment must withstand
- The GIS field software that can be used on the device

- GPS is an established and proven technology used worldwide for GIS data collection which allows better decision making at a lower cost than traditional data acquisition techniques

Mr. Ezzaddine then showcased the process of building the utility database in the Municipality of Tunis, Tunisia, using Trimble GPS technology. With the collaboration of each utility department (water, electricity, etc.) the goal was to build a comprehensive GIS for all of the city's utility features. The Municipality successfully mapped and logged all of the necessary data and concluded that all other utility departments will use the GPS receivers to map and record data for street lights, fire hydrants, pipes, water lines, and other utility features and all of them will become part of a comprehensive GIS for the City.

In the afternoon, participants worked in groups to discuss Urban GIS application areas, Common GIS Application Functional Uses, Components of a Geographic Information System (GIS), and Topics to consider when planning a GIS as well as outlined the GIS development process in detail. They outlined the issues facing each of their municipalities and the challenges to building a GIS.

Day two was dedicated to needs assessment and methodology and strategic plan development which included sessions on how to develop and undertake a needs assessment in the city. Participants learned the methodology followed, from identifying a need and developing a plan, to implementation of the plan and measuring results. Additional sessions on day two focused on developing an outline of a strategy and action plan for each individual city so that geospatial technology is applied in practice in the future. Participants used the needs assessment to start envisioning realistic long and short-term goals for their cities which may be reached with the assistance of geospatial information. The sessions assisted the participating municipalities to assess what their needs are, what resources they may be able to make available to enhance their decision-making process using geospatial technologies, and what additional resources they may require to achieve their full plans.

The first session, entitled 'Developing a Needs Assessment and Measuring Results – Techniques to Conduct Your Needs Assessment, Set Your Priorities, and Create Your GIS/GPS Enhanced Decision Making Strategy' was organized to give participants an overview about the process of developing a needs assessment, including the methods used to develop the tool, what information is derived from it, how it is used, and the benefits and costs.

Mr. Ayad Altaai, Principal and Cofounder of Global Consortium for Sustainable Solutions, (GCSS), LLC presented an overview of the MENA Region and it's utilization of geospatial tools. He broke countries and respective experiences into groups to illustrate the stages where they are along a learning/implementation curve. Mr. Altaai then described the current issues facing the MENA region with regard to GIS development and efficient use of tools and data. The needs and the potential prospects followed these observations.

Following the presentations, participants worked in groups to start the process of conducting a needs assessment, answering the question: "Why are you building your GIS?" Participants were grouped by their municipality or country so that they could discuss real-life issues and needs as well as consider the strengths and weaknesses of their current municipal infrastructure and

governance. Participants used a worksheet designed to allow them to practice recording the outcomes of discussions with application end users, data providers, etc. By the end, they had developed a GIS application list by functional use and frequency, a master data list including entity, attributes, and spatial representation, and a GIS application/data matrix. Following that discussion, each group selected one real urban GIS application area – perhaps a challenge facing your municipality – and provided a more detailed assessment of the needs for that application. The filled out a GIS Application Description, considering all five GIS components (people, procedures, software, hardware, data) when determining the GIS needs.

Following the needs assessment exercise, participants discussed funding opportunities in the region. They heard from Ghassan Samman, Head of External Affairs, Media Information, at the Arab Towns Organization (ATO); Carrie Stokes, Geospatial Information Technology Advisor, Natural Resources Management Office, USAID; and Majid Al Mansori, Secretary General, Environment Agency, Abu Dhabi, UAE who all spoke about the funding mechanisms and opportunities for collaborative work with their organizations.

At the conclusion of the workshop, participants had agreed to take steps toward establishing a regional network of practitioners to continue the dialog of geospatial technology use in urban planning. The Environment Agency – Abu Dhabi (EAD) agreed to establish a website through which participants could post questions and problems they are encountering in their municipalities and experts and/or other participants who have solved the issues can reply. They also agreed to facilitate a meeting in Abu Dhabi, UAE in 2007 to bring together participants from the region to strengthen he network and discuss regional and local applications for geospatial technology in urban planning.

III. Challenges/Remedial Actions Taken

N/A

IV. Projected Activities

ICMA is in discussion with USAID as to a follow-up activity to the workshop and has submitted a list of potential ideas, including workshops, study tours, and facilitation and/or support to the conference in UAE in 2007. USAID will decide what the activity will be this quarter.

Task Order No.:03
Task Order Title: Support with AfriCities Summit in Nairobi, Kenya
Period of Performance: June 14, 2006-September 30, 2006
USAID Office/Mission: Washington, D.C.
CTO: Edgar Thornton

I. Introduction

The Africities 4 Summit, the fourth Pan-African edition of Local Government Days, was held in Nairobi, Kenya, from September 18 to 22, 2006. The Theme of the Summit was: "Building joint actions for the effective realization of the Millennium Development Goals in African Local Governments."

Africities 4 in Nairobi was mainly a meeting of stakeholders. The intention was to bring together all major local government stakeholders so that they could discuss the best way to work together at the local level with a view to attaining the MDGs in the African local governments. Like in all Africities Summits, an exhibition of African local governments, the Citexpo, was organized within the framework of the Nairobi Africities Summit. The Summit provided the opportunity for the public and private businesses, groups, local government suppliers to present their products and/ or services as well as the latest technological advances that might interest the delegates. It also provided the opportunity for each country to present its know-how in the area of decentralization. This exhibition also hosted cities and local governments, associations, bilateral or multilateral institutional partners, NGOs, universities and training/research institutions. USAID participated in the AfriCities Expo with a booth dedicated to Urban Programs and the Urban Development Timeline, developed by PADCO.

II. Major Accomplishments

ICMA attended the AfriCities Summit in Nairobi and staffed the USAID booth at the City Expo. The display featured the Urban Development Timeline, developed by PADCO, another SUM IQC partner, and funded by USAID. The Urban Development Timeline resonated with AfriCities delegates trying to understand where they are in terms of development, how they may move ahead, and what tools can be used to guide their development.

III. Challenges/Remedial Actions Taken

N/A

IV. Projected Activities

N/A

Annex 1: Financial Information

(will be submitted under separate cover)